

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2003-197256

(43)Date of publication of application : 11.07.2003

(51)Int.Cl.

H01M 10/40
H01M 4/02
H01M 4/58

(21)Application number : 2001-391110

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(22)Date of filing : 25.12.2001

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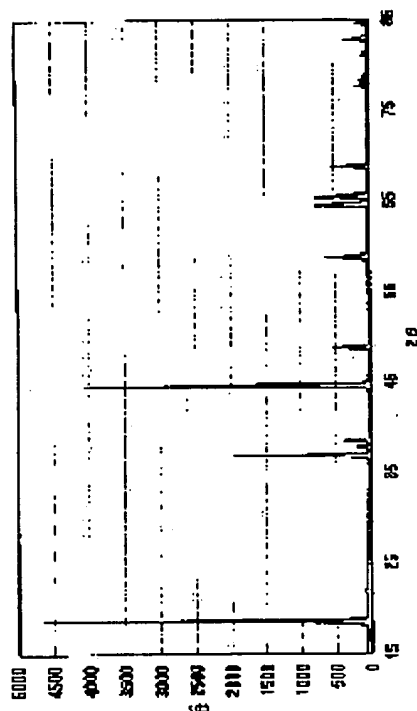
ONDA TOSHIYUKI

(54) NONAQUEOUS ELECTROLYTE SECONDARY BATTERY

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a nonaqueous electrolyte secondary battery which is superior in low temperature discharging, high-rate discharging, and charging and discharging cycle, and which has high safety and inexpensive.

SOLUTION: This battery uses a complex oxide expressed as $\text{Li}_x\text{Mn}_a\text{Ni}_b\text{Co}_c\text{O}_2$ having $\alpha\text{-NaFeO}_2$ -type crystal structure (wherein, a, b, and c express a range shown as a region surrounded by a straight line connecting 4 points consisting of point A (a, b, c)=(0.5, 0.5, 0), point B (0.45, 0.55, 0), point C (0.25, 0.35, 0.5), and point D (0.3, 0.3, 0.5), and $0.90 < x/(a+b+c) < 1.30$ in the 3-dimensional state chart of showing its relations) as a positive electrode, and the electrolyte salt contains $\text{LiN}(\text{CnF}_{2n+1}\text{SO}_2)(\text{CmF}_{2m+1}\text{SO}_2)$ and preferably, and further contains LiPF_6 and/or LiBF_4 .



LEGAL STATUS

[Date of request for examination]

24.09.2004

[Date of sending the examiner's decision of

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rejection]

[Kind of final disposal of application other than
the examiner's decision of rejection or
application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's
decision of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]